=> index bioscience medicine

INDEX 'ADISCTI, ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, ANTE, AQUALINE, AQUASCI, BIOENG, BIOSIS, BIOTECHABS, BIOTECHDS, BIOTECHNO, CABA, CAPLUS, CEABA-VTB, CIN, CONFSCI, CROPB, CROPU, DDFB, DDFU, DGENE, DISSABS, DRUGB, DRUGMONOG2, DRUGU, EMBAL, EMBASE, ...' ENTERED AT 10:52:41 ON 02 FEB 2006

=> s ((protein-glutamine adj gamma-glutamyltransferase#) or (microbial adj transglutaminase#) or transglutaminase#)
30 FILE ADISCTI
5 FILE ADISINSIGHT
7 FILE ADISNEWS
285 FILE AGRICOLA
43 FILE ANABSTR
14 FILE ANTE
1 FILE AQUALINE
133 FILE AQUASCI
178 FILE BIOENG
5005 FILE BIOSIS
332 FILE BIOTECHABS
332 FILE BIOTECHDS
1418 FILE BIOTECHNO
13 FILES SEARCHED...
525 FILE CABA
4833 FILE CAPLUS
72 FILE CEABA-VTB
19 FILE CIN
223 FILE CONFSCI
1 FILE CROPU
47 FILE DDFB
210 FILE DDFU
3593 FILE DGENE
23 FILES SEARCHED...
149 FILE DISSABS
47 FILE DRUGB
309 FILE DRUGU
40 FILE EMBAL
3110 FILE EMBASE
1871 FILE ESBIOBASE
93 FILE FEDRIP
1 FILE FOMAD
6 FILE FOREGE
702 FILE FROSTI
580 FILE FSTA
35 FILES SEARCHED...
2597 FILE GENBANK
2 FILE HEALSAFE
463 FILE IFIPAT
6 FILE IMSDRUGNEWS
7 FILE IMSRESEARCH
611 FILE JICST-EPLUS
107 FILE KOSMET
884 FILE LIFESCI
4125 FILE MEDLINE
16 FILE NIOSHTIC
21 FILE NTIS
28 FILE OCEAN
1848 FILE PASCAL
15 FILE PHAR
10 FILE PHIN
83 FILE PROMT
33 FILE PROUSDDR
58 FILES SEARCHED...
3 FILE RDISCLOSURE
5119 FILE SCISEARCH
1630 FILE TOXCENTER
1836 FILE USPATFULL
185 FILE USPAT2

4 FILE VETU
1 FILE WATER
761 FILE WPIDS
4 FILE WPIFV
761 FILE WPINDEX
13 FILE IPA
2 FILE NAPRALERT
61 FILE NLDB

L1 QUE ((PROTEIN-GLUTAMINE ADJ GAMMA-GLUTAMYLTRANSFERASE#) OR (MICROBIAL ADJ TRANSGLUTAMINASE#) OR TRANSGLUTAMINASE#)

=> d rank

F1	5119	SCISEARCH
F2	5005	BIOSIS
F3	4833	CAPLUS
F4	4125	MEDLINE
F5	3593	DGENE
F6	3110	EMBASE
F7	2597	GENBANK
F8	1871	ESBIOBASE
F9	1848	PASCAL
F10	1836	USPATFULL
F11	1630	TOXCENTER
F12	1418	BIOTECHNO
F13	884	LIFESCI
F14	761	WPIDS
F15	761	WPINDEX
F16	702	FROSTI
F17	611	JICST-EPLUS
F18	580	FSTA
F19	525	CABA
F20	463	IFIPAT

=> file f1-f4, f6, f8-f14

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FILE 'WPIDS' ENTERED AT 10:56:33 ON 02 FEB 2006
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=> s L1
L2 32440 L1

=> s (gene# or sequence# or polynucleotide# or clone# or recombinant)(s)L2
3 FILES SEARCHED...
8 FILES SEARCHED...
L3 5444 (GENE# OR SEQUENCE# OR POLYNUCLEOTIDE# OR CLONE# OR RECOMBINANT)
(S) L2

=> s (streptomyces or streptoverticilli?)(s)L3
L4 199 (STREPTOMYCES OR STREPTOVERTICILLI?)(S) L3

=> s expressi?(s)L4
L5 77 EXPRESSI?(S) L4

=> dup rem l5
PROCESSING COMPLETED FOR L5
L6 36 DUP REM L5 (41 DUPLICATES REMOVED)

=> d ibib abs L6 1-36

L6 ANSWER 1 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2005:959781 CAPLUS
DOCUMENT NUMBER: 143:246868
TITLE: High level ***expression*** of
Streptomyces mobaraensis
transglutaminase in Bacillus brevis using a
pro- ***transglutaminase*** ***sequence***
attached to signal ***sequence***
INVENTOR(S): Yamagata, Hideo; Tokishita, Shinichi; Matsui, Hiroshi;
Udaka, Juzo
PATENT ASSIGNEE(S): Ajinomoto Co., Inc., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 35 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005229807	A2	20050902	JP 2001-100828	20010330

PRIORITY APPLN. INFO.: JP 2001-100828 20010330
AB Biosynthetic prodn. of transglutaminase in Bacillus brevis is disclosed. Transglutaminase coding sequence is attached to a Bacillus brevis cell surface protein derived signal peptide coding sequence, and Bacillus brevis is transformed. A modified pro-transglutaminase having a protease cleavage site inserted between pro and mature protein sequence, and having mutations in its glycosylation site, is expressed and secreted in host yeast, and processed with a protease, to yield a mature transglutaminase. Transglutaminase (TGase) from the actinomycete Streptomyces mobaraensis is a useful enzyme in the food industry, and development of an efficient prodn. system for it would be desirable. Prodn. of Streptoverticillium mobaraense transglutaminase in Bacillus brevis is described. Pro- or mature transglutaminase having Bacillus brevis middle wall protein (MWP) signal peptide and Bacillus polymyxa AJ11034 neutral metalloprotease (npr) cleavage site were expressed.

L6 ANSWER 2 OF 36 WPIDS COPYRIGHT 2006 THE THOMSON CORP on STN
ACCESSION NUMBER: 2005-315712 [32] WPIDS
DOC. NO. CPI: C2005-098222
TITLE: Screening for protein secreting recombinant host cells, comprises screening for promoter activity of a stress inducible promoter, useful for identifying transformants secreting proteins having industrial applications.
DERWENT CLASS: B04 D16
INVENTOR(S): HOFF, T
PATENT ASSIGNEE(S): (NOVO) NOVOZYMES AS
COUNTRY COUNT: 108

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2005038024	A1	20050428 (200532)*		EN	52

RW: AT BE BG BW CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE LS LU MC MW MZ NA NL OA PL PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW

W: AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NA NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2005038024	A1	WO 2004-DK699	20041013

PRIORITY APPLN. INFO: DK 2003-1526 20031016

AN 2005-315712 [32] WPIDS

AB WO2005038024 A UPAB: 20050520

NOVELTY - Screening (M1) for protein secreting recombinant host cells comprising screening for promoter activity of a stress inducible promoter, is new.

USE - The method is useful for rapidly identifying actively secreting transformants and for screening recombinant libraries for transformants secreting proteins such as enzymes (claimed) having industrial applications.

ADVANTAGE - This method enables to identify only those host cells which secrete proteins of interest, without having to screen the collection by traditional labor- and time-consuming techniques.

Dwg.0/0

L6 ANSWER 3 OF 36 SCISEARCH COPYRIGHT (c) 2006 The Thomson Corporation on STN DUPLICATE 1

ACCESSION NUMBER: 2006:40440 SCISEARCH

THE GENUINE ARTICLE: 999VB

TITLE: Heterologous leaky production of transglutaminase in Lactococcus lactis significantly enhances the growth performance of the host

AUTHOR: Fu R Y; Chen J; Li Y (Reprint)

CORPORATE SOURCE: So Yangtze Univ, Sch Biotechnol, Minist Educ, Key Lab Ind Biotechnol, 170 Huihe Rd, Wuxi 214036, Peoples R China (Reprint); So Yangtze Univ, Sch Biotechnol, Minist Educ, Key Lab Ind Biotechnol, Wuxi 214036, Peoples R China yinli@sytu.edu.cn

COUNTRY OF AUTHOR: Peoples R China

SOURCE: APPLIED AND ENVIRONMENTAL MICROBIOLOGY, (DEC 2005) Vol. 71, No. 12, pp. 8911-8919. ISSN: 0099-2240.

PUBLISHER: AMER SOC MICROBIOLOGY, 1752 N ST NW, WASHINGTON, DC 20036-2904 USA

DOCUMENT TYPE: Article; Journal

LANGUAGE: English

REFERENCE COUNT: 53

ENTRY DATE: Entered STN: 19 Jan 2006
Last Updated on STN: 19 Jan 2006

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB This study describes a novel strategy to improve the growth performance of Lactococcus lactis by heterologous production of food-grade transglutaminase. The mtg ***gene*** from ***Streptoverticillium*** mobaraense that encodes the ***transglutaminase*** mature protein was ***cloned*** into a nisin-inducible ***expression*** vector and transformed into L. lactis subsp. cremoris NZ9000. The leaky expression of the mtg gene from the nisA promoter resulted in ammonia formation and carbon flux redistribution at the pyruvate branch. As a consequence, medium acidification was lessened and energy utilization was improved. This led to significantly higher biomass production under aerobic

conditions and particularly under non-pH-controlled conditions (up to a 12-fold increase). The results presented here provide a novel way to enhance the growth yield of L. lactis, which is an important step for the purposes of producing proteins of commercial interest using L. lactis as a host.

L6 ANSWER 4 OF 36 MEDLINE on STN
ACCESSION NUMBER: 2005605626 IN-PROCESS
DOCUMENT NUMBER: PubMed ID: 16285523
TITLE: High ***expression*** of mirobial ***transglutaminase*** ***gene*** from ***Streptoverticillium*** mobaraense in Escherichia coli.
AUTHOR: Xu Bin; Han Zhi-Bo; Yang Ping; Liu Yong-Jun; Li Yan-Han; Han Zhong-Chao
CORPORATE SOURCE: Institute of Hematology, Chinese Academy of Medical Sciences, Tianjin 300020, China.. xubin_td@sohu.com
SOURCE: Sheng wu gong cheng xue bao = Chinese journal of biotechnology, (2005 Sep) 21 (5) 794-8.
Journal code: 9426463. ISSN: 1000-3061.
PUB. COUNTRY: China
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: Chinese
FILE SEGMENT: NONMEDLINE; IN-PROCESS; NONINDEXED; Priority Journals
ENTRY DATE: Entered STN: 20051116
Last Updated on STN: 20051216
AB The microbial transglutamunase (MTG) gene was amplified from the genomic DNA of Streptoverticillium mobaraensea by using PCR and inserted into pET vector to construct the expression plasmid called pET-MTG. The pET-MTG was transfected into E. coli (Rosetta DE3) and the MTG protein was found to be highly expressed as inclusion bodies. The inclusion bodies were isolated and subjected to denaturation and re-naturation, followed by strong cation ion-exchange chromatography to purify the expressed MTG. The specific activity of purified MTG was close to that of native MTG. Taken together, this study might provide a base for the industrial production of microbial transglutaminase.

L6 ANSWER 5 OF 36 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN
DUPLICATE 2
ACCESSION NUMBER: 2005:463068 BIOSIS
DOCUMENT NUMBER: PREV200510258309
TITLE: Influence of expression of transglutaminase on the growth of Lactococcus lactis.
AUTHOR(S): Fu Rui-yan; Chen Jian; Li Yin [Reprint Author]
CORPORATE SOURCE: So Yangtze Univ, Sch Biotechnol, Minist Educ, Key Lab Ind Biotechnol, Wuxi 214036, Peoples R China
yinli@sytu.edu.cn
SOURCE: Weishengwu Xuebao, (AUG 2005) Vol. 45, No. 4, pp. 510-515.
CODEN: WSHPA8. ISSN: 0001-6209.
DOCUMENT TYPE: Article
LANGUAGE: Chinese
ENTRY DATE: Entered STN: 9 Nov 2005
Last Updated on STN: 9 Nov 2005
AB To improve the aerobic growth performance of Lactococcus lactis subsp. cremoris NZ9000, the ***gene*** nag encoding the mature microbial ***transglutaminase*** was amplified from the chromosomal DNA of ***Streptoverticillium*** mobaraease and then ***cloned*** into the nisin-inducible ***expression*** vector pNZ8148. The resulting plasmid pFL001 was transformed into strain NZ9000 by electroporation. Compared with strain NZ9000 harboring pNZ8148 (the control strain), strain NZ9000 harboring pFL001 (the recombinant strain) had a remarkably improved aerobic growth performance. When grown aerobically under non-pH-controlled conditions, the maximal biomass of the recombinant strain reached 4.13g/L, which was 11-fold higher than the growth of the control strain (0.34g/L). When grown aerobically with the pH controlled at 6.5 +/- 0.1, the maximal biomass of the recombinant strain reached 4.73g/L, which was an 80% increase compared with the growth of the control strain. In addition, the efficiency of biomass synthesis relative to glucose consumption (Y-x/s) of the recombinant strain, 71.7g of biomass per mol of glucose, was 1.6-fold higher than that of the control strain. The significantly improved growth performance of the recombinant strain

might be attributed to the expression of mtg in the recombinant strain, which might increase intracellular pH and save part of the energy(ATP) that was originally used for pumping the cytoplasmic H+, and as a consequence, the energy used for growth increased accordingly.

L6 ANSWER 6 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:756877 CAPLUS
DOCUMENT NUMBER: 141:272619
TITLE: Co-expression of Streptoverticillium mobaraense neutral metalloprotease for production of mature microbial transglutaminase
INVENTOR(S): Umezawa, Yukiko; Yokoyama, Keiichi; Kikuchi, Yoshimi; Date, Masayo; Onishi, Norimasa
PATENT ASSIGNEE(S): Ajinomoto Co. Inc., Japan
SOURCE: PCT Int. Appl., 56 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004078973	A1	20040916	WO 2004-JP2923	20040305
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI				
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CA 2518049	AA	20040916	CA 2004-2518049	20040305
EP 1602722	A1	20051207	EP 2004-717856	20040305
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK				
US 2006019367	A1	20060126	US 2005-218780	20050906

PRIORITY APPLN. INFO.: JP 2003-61623 A 20030307
WO 2004-JP2923 W 20040305
AB This invention provides two neutral metalloprotease of Streptoverticillium mobaraense, SVP35 and SVP70, which selectively cleave the pro-structure moiety of a microorganism-origin protransglutaminase. The DNA and protein sequences of SVP35 were disclosed. An mature transglutaminase were prepd. from protransglutaminase which was cleaved by neutral metalloprotease co-expressed in the expression host.
REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 7 OF 36 USPATFULL on STN
ACCESSION NUMBER: 2004:165359 USPATFULL
TITLE: Methods for secretory production of proteins
INVENTOR(S): Kikuchi, Yoshimi, Kawasaki-shi, JAPAN
Date, Masayo, Kawasaki-shi, JAPAN
Umezawa, Yukiko, Kawasaki-shi, JAPAN
Yokoyama, Keiichi, Kawasaki-shi, JAPAN
Heima, Haruo, Kawasaki-shi, JAPAN
Matsui, Hiroshi, Kawasaki-shi, JAPAN

NUMBER	KIND	DATE
PATENT INFORMATION: US 2004126847	A1	20040701
APPLICATION INFO.: US 2003-673860	A1	20030930 (10)

RELATED APPLN. INFO.: Continuation of Ser. No. WO 2002-JP2978, filed on 27 Mar 2002, UNKNOWN

NUMBER	DATE
PRIORITY INFORMATION: JP 2001-98808	20010330

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION

LEGAL REPRESENTATIVE: AJINOMOTO CORPORATE SERVICES, LLC, INTELLECTUAL PROPERTY DEPARTMENT, 1120 CONNECTICUT AVE., N.W., WASHINGTON, DC, 20036
NUMBER OF CLAIMS: 11
EXEMPLARY CLAIM: 1
LINE COUNT: 2798
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The object of the present invention is to provide a method of producing a heterologous protein by making a coryneform bacterium to produce and efficiently extracellularly secrete (secreto-production) an industrially useful heterologous protein. According to the present invention, a genetic construct is used where a gene sequence encoding an intended protein which is ligated to the downstream of a sequence encoding the signal peptide derived from a coryneform bacterium, the gene construct is introduced into a mutant coryneform bacterium which has a capacity of secreting the heterologous protein at least 2-fold higher than the wild type Corynebacterium glutamicum ATCC 13869, the mutant coryneform bacterium is cultured and the extracellularly released heterologous protein is recovered.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 8 OF 36 USPATFULL on STN
ACCESSION NUMBER: 2004:7420 USPATFULL
TITLE: Method of producing polyvalent antigens
INVENTOR(S): Chou, Szu-Yi, Sunnyvale, CA, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2004005654	A1	20040108
APPLICATION INFO.:	US 2002-231114	A1	20020828 (10)

	NUMBER	DATE
PRIORITY INFORMATION:	US 2002-361166P	20020301 (60)
	US 2002-363445P	20020308 (60)

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: MOSER, PATTERSON & SHERIDAN, L.L.P., Suite 1500, 3040 Post Oak Blvd., Houston, TX, 77056
NUMBER OF CLAIMS: 80
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 11 Drawing Page(s)
LINE COUNT: 3452
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Embodiments of the invention generally provide methods and compositions for producing polyvalent antigens. In one aspect, the invention provides a method for producing a cross-linked antigen. In another aspect, the invention provides a method of using cross-linked products as antigens to immunize animals and induce strong immune responses.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 9 OF 36 USPATFULL on STN
ACCESSION NUMBER: 2004:1829 USPATFULL
TITLE: Method of producing disease-specific antigens
INVENTOR(S): Chou, Szu-Yi, Sunnyvale, CA, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2004001848	A1	20040101
APPLICATION INFO.:	US 2002-231213	A1	20020828 (10)

	NUMBER	DATE
PRIORITY INFORMATION:	US 2002-361166P	20020301 (60)
	US 2002-363445P	20020308 (60)

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: MOSER, PETERSON & SHERIDAN, L.L.P., Suite 1500, 3040

Post Oak Blvd., Houston, TX, 77056
NUMBER OF CLAIMS: 64
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 11 Drawing Page(s)
LINE COUNT: 3423
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Embodiments of the invention generally provide methods and compositions for producing disease-specific antigens. In one aspect, the invention provides a method of producing an antigen specific for Alzheimer's disease. In another aspect, the invention provides a method of producing a polyvalent antigen for two or more diseases. In yet another aspect, compositions of antigens are prepared and provided to immunize animals and induce strong immune responses.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 10 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 3
ACCESSION NUMBER: 2004:984272 CAPLUS
DOCUMENT NUMBER: 142:175422
TITLE: The pro-peptide of Streptomyces mobaraensis transglutaminase functions in cis and in trans to mediate efficient secretion of active enzyme from methylotrophic yeasts
AUTHOR(S): Yurimoto, Hiroya; Yamane, Maiko; Kikuchi, Yoshimi; Matsui, Hiroshi; Kato, Nobuo; Sakai, Yasuyoshi
CORPORATE SOURCE: Division of Applied Life Sciences, Graduate School of Agriculture, Kyoto University, Kyoto, 606-8502, Japan
SOURCE: Bioscience, Biotechnology, and Biochemistry (2004), 68(10), 2058-2069
CODEN: BBBIEJ; ISSN: 0916-8451
PUBLISHER: Japan Society for Bioscience, Biotechnology, and Agrochemistry
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Transglutaminase (TGase) from the actinomycete Streptomyces mobaraensis is a useful enzyme in the food industry, and development of an efficient prodn. system for it would be desirable. Herein we report secretion of TGase in an enzymically active form by methylotrophic yeasts as expression hosts. Secretory prodn. of active TGase required a pro-peptide from TGase. When an artificial Kex2-endopeptidase recognition site was placed between the pro-peptide and mature TGase, secretion and in vitro maturation of TGase depended on Kex2-dependent cleavage. Unexpectedly, coexpression of unlinked pro-peptide with mature TGase yielded efficient secretion of the active enzyme. These results indicate that the pro-peptide from TGase functions not only in an intramol. but also in an intermol. manner. Site-directed mutagenesis of putative N-glycosylation sites increased the productivity of the active TGase further. A recombinant Candida boidinii strain was found to secrete active TGase up to 1.83 U/mL (about 90 mg/l) after 119 h of cultivation.
REFERENCE COUNT: 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 11 OF 36 SCISEARCH COPYRIGHT (c) 2006 The Thomson Corporation on STN DUPLICATE 4
ACCESSION NUMBER: 2004:151866 SCISEARCH
THE GENUINE ARTICLE: 768WE
TITLE: Cloning and ***expression*** of the ***transglutaminase*** ***gene*** from ***Streptoverticillium*** ladakanum in ***Streptomyces*** lividans
AUTHOR: Lin Y S; Chao M L; Liu C H; Chu W S (Reprint)
CORPORATE SOURCE: FIRDI, POB 246, Hsinchu 30099, Taiwan (Reprint); FIRDI, Hsinchu 30099, Taiwan
COUNTRY OF AUTHOR: Taiwan
SOURCE: PROCESS BIOCHEMISTRY, (30 JAN 2004) Vol. 39, No. 5, pp. 591-598.
ISSN: 0032-9592.
PUBLISHER: ELSEVIER SCI LTD, THE BOULEVARD, LANGFORD LANE, KIDLINGTON, OXFORD OX5 1GB, OXON, ENGLAND.
DOCUMENT TYPE: Article; Journal

LANGUAGE: English
REFERENCE COUNT: 41
ENTRY DATE: Entered STN: 20 Feb 2004
Last Updated on STN: 20 Feb 2004
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB A gene, tgB1, encoding transglutaminase (TGase) in Streptoverticillium ladakanum B1 was cloned and expressed in Streptomyces lividans. The tgB1 gene consisted of an open reading frame of 1230 nucleotides encoding a protein of 410 amino acids with a calculated molecular weight of 45 780 Da. The deduced amino acid sequence is highly homologous to TGases from Streptoverticillium spp. but exhibits little homology with TGases of Bacillus subtilis and mammalian origins. The putative active site, YGCVG, conserved in Streptoverticillium TGases is also present in TgB1. No -10 and -35 regions of the putative promoter could be identified. Two A+T-rich regions, characteristics of a promoter sequence, were found at bp 238-269 and bp 631-681. The tgB1 gene was expressed in S. lividans JT46 under the control of its endogenous promoter. Immunoblotting of SDS-PAGE revealed that, in addition to protein bands with sizes corresponding to those of the unprocessed and mature TgB1, several bands with sizes in between reacting with anti-TgB1 IgG were present in the culture supernatant of the recombinant strain. This suggests that the recombinant TgB1 was not correctly processed during secretion in the transformed S. lividans JT46. (C) 2003 Elsevier Ltd. All rights reserved.

L6 ANSWER 12 OF 36 Elsevier BIOBASE COPYRIGHT 2006 Elsevier Science B.V. on STN DUPLICATE
ACCESSION NUMBER: 2004137842 ESBIOBASE
TITLE: Enzymatic labeling of a single chain variable fragment of an antibody with alkaline phosphatase by microbial transglutaminase
AUTHOR: Takazawa T.; Kamiya N.; Ueda H.; Nagamune T.
CORPORATE SOURCE: T. Nagamune, Dept. of Chemistry and Biotechnology, School of Engineering, University of Tokyo, 7-3-1 Hongo, Bunkyo-ku, Tokyo 113-8656, Japan. E-mail: nagamune@bio.t.u-tokyo.ac.jp
SOURCE: Biotechnology and Bioengineering, (20 MAY 2004), 86/4 (399-404), 20 reference(s) CODEN: BIBIAU ISSN: 0006-3592
DOCUMENT TYPE: Journal; Article
COUNTRY: United States
LANGUAGE: English
SUMMARY LANGUAGE: English

AB Functional cross-linking of a single chain Fv fragment of anti-hen egg-white lysozyme antibody (scFv) and alkaline phosphatase (AP) was explored using microbial ***transglutaminase*** (MTG) from ***Streptomyces*** mobaraensis. A specific peptidyl linker for MTG was genetically fused to the N-terminus of each protein and the resultant proteins were obtained separately by bacterial ***expression*** . The ***recombinant*** peptide-tagged scFv and AP were site-specifically cross-linked by MTG through the extra peptidyl linkers in vitro, which mainly yielded the heterodimer (i.e., scFv-AP conjugate). The enzymatic cross-linking reaction had little influence on either the antigen-binding ability of the scFv moiety or the enzymatic activity of the AP moiety of the conjugate, allowing use within an enzyme-linked immunosorbent assay. The results obtained suggest that the enzymatic approach with MTG facilitates the posttranslational construction of functional fusion proteins. .COPYRGT. 2004 Wiley Periodicals, Inc.

L6 ANSWER 13 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2005:102197 CAPLUS
DOCUMENT NUMBER: 143:319789
TITLE: Cloning and expression of transglutaminase gene in Escherichia coli
AUTHOR(S): Wang, Li; Chang, Zhongyi; Li, Pingzuo
CORPORATE SOURCE: Life Science College, East China Normal University, Shanghai, 200062, Peop. Rep. China
SOURCE: Zhongguo Shengwu Gongcheng Zazhi (2004), 24(11), 56-60 CODEN: ZSGZAW; ISSN: 1671-8135
PUBLISHER: Zhongguo Shengwu Gongcheng Zazhishe

DOCUMENT TYPE: Journal
LANGUAGE: Chinese
AB TGase (***Transglutaminase***) ***gene*** from ***Streptoverticillium*** mobaraense was ***cloned*** into ***expression*** vector pET30a. The result of sequencing anal. indicated that the TGase whole length gene was obtained. The TGase gene was transformed into E. coli BL21 (DE3). Its expression was induced by 1 mmol/L IPTG. The result of SDS-PAGE anal. showed that there is a new protein band which is of 17% in total bacterial protein. Dolt blotting and Western blotting anal. proved that the inducible band could be specifically recognized by immol/Lune serum come from rabbit, which have been injected with TGase. Then the recombinant protein was purified and its biol. activity of amine-.gamma.-glutamyl-transferase was characterized, which can reach 15.1U/mg protein.

L6 ANSWER 14 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2005:466515 CAPLUS
DOCUMENT NUMBER: 143:167681
TITLE: Streptoverticillium ladakanum transglutaminase gene and use thereof in food processing and leather processing
INVENTOR(S): Lin, Yixing; Liu, Changxie; Zhu, Wensheng
PATENT ASSIGNEE(S): Institute of Food Industry Development, Peop. Rep. China
SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 25 pp.
CODEN: CNXXEV
DOCUMENT TYPE: Patent
LANGUAGE: Chinese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1427078	A	20030702	CN 2001-143722	20011218

PRIORITY APPLN. INFO.: CN 2001-143722 20011218
AB The invention provides sequences of Streptoverticillium ladakanum transglutaminase gene and its encoded protein. The invention relates to the prepn. of the polypeptide having ***transglutaminase*** by ***recombinant*** ***expression*** in ***Streptomyces*** lividans. The invention also relates to the application of the transglutaminase polypeptide in food processing and leather processing.

L6 ANSWER 15 OF 36 USPATFULL on STN
ACCESSION NUMBER: 2003:318732 USPATFULL
TITLE: Method of producing transglutaminase reactive compound
INVENTOR(S): Chou, Szu-Yi, Sunnyvale, CA, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2003224476	A1	20031204
APPLICATION INFO.:	US 2002-231063	A1	20020828 (10)

	NUMBER	DATE
PRIORITY INFORMATION:	US 2002-361166P	20020301 (60)
	US 2002-363445P	20020308 (60)

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: MOSER, PATTERSON & SHERIDAN, L.L.P., Suite 1500, 3040 Post Oak Blvd., Houston, TX, 77056
NUMBER OF CLAIMS: 36
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 11 Drawing Page(s)
LINE COUNT: 3307
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A method for producing transglutaminase-reactive compounds is provided. In one aspect, transglutaminase reactivity of a compound is enhanced. In another aspect, transglutaminase non-reactive compounds are modified to be reactive with transglutaminase.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 16 OF 36 USPATFULL on STN
ACCESSION NUMBER: 2003:312260 USPATFULL
TITLE: Method of producing transglutaminase having broad substrate activity
INVENTOR(S): Chou, Szu-Yi, Sunnyvale, CA, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2003219857	A1	20031127
APPLICATION INFO.:	US 2002-231470	A1	20020828 (10)

	NUMBER	DATE
PRIORITY INFORMATION:	US 2002-361166P	20020301 (60)
	US 2002-363445P	20020308 (60)

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: MOSER, PATTERSON & SHERIDAN, L.L.P., Suite 1500, 3040 Post Oak Blvd., Houston, TX, 77056
NUMBER OF CLAIMS: 80
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 11 Drawing Page(s)
LINE COUNT: 3442
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Embodiments of the invention generally provide methods and compositions for producing recombinant transglutaminases. The purified recombinant transglutaminases of the invention are reactive to a broad range of compounds and exhibit broad substrate activity. In one embodiment, Streptoverticillium mobaraense (ATCC 29032), and Streptoverticillium cinnamoneum (ATCC 11874) recombinant transglutaminase fusion proteins purified from E. coli are provided to a better yield, higher purity, and activity than hitherto possible by recombinant DNA technology.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 17 OF 36 USPATFULL on STN
ACCESSION NUMBER: 2003:312256 USPATFULL
TITLE: Method of cross-linking a compound
INVENTOR(S): Chou, Szu-Yi, Sunnyvale, CA, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2003219853	A1	20031127
APPLICATION INFO.:	US 2002-231298	A1	20020828 (10)

	NUMBER	DATE
PRIORITY INFORMATION:	US 2002-361166P	20020301 (60)
	US 2002-363445P	20020308 (60)

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: MOSER, PATTERSON & SHERIDAN, L.L.P., Suite 1500, 3040 Post Oak Blvd., Houston, TX, 77056
NUMBER OF CLAIMS: 58
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 11 Drawing Page(s)
LINE COUNT: 3367
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention provides a method of producing a cross-linked compound by a biological agent. In one aspect, cross-linking a compound requires a change of color in the cross-linking reaction mixture. In another aspect, attaching one or more amino acid residues to the compound is also required. In yet another aspect, the compound is obtained, and denaturing the compound in the presence of a denaturant and refolding the compound are performed before cross-linking the compound by a solution of the biological agent.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 18 OF 36 USPATFULL on STN
ACCESSION NUMBER: 2003:165553 USPATFULL
TITLE: Transglutaminase gene of Streptoverticillium ladakanum and the transglutaminase encoded therefrom
INVENTOR(S): Lin, Yi-Shin, Hsinchu, TAIWAN, PROVINCE OF CHINA
Liu, Chang-Hsiesh, Ser Tou, TAIWAN, PROVINCE OF CHINA
Chu, Wen-Shen, Hsinchu, TAIWAN, PROVINCE OF CHINA
PATENT ASSIGNEE(S): FOOD INDUSTRY RESEARCH AND DEVELOPMENT INSTITUTE (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2003113407	A1	20030619
	US 6660510	B2	20031209
APPLICATION INFO.:	US 2001-22809	A1	20011217 (10)

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: LADAS & PARRY, 26 WEST 61ST STREET, NEW YORK, NY, 10023
NUMBER OF CLAIMS: 13
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 7 Drawing Page(s)
LINE COUNT: 334
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention provides a DNA molecule encoding transglutaminase of Streptoverticillium ladakanum, the encoded transglutaminase and the use of the transglutaminase in industrial process.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 19 OF 36 USPATFULL on STN
ACCESSION NUMBER: 2003:120265 USPATFULL
TITLE: Process for producing transglutaminase
INVENTOR(S): Kikuchi, Yoshimi, Kawasaki-shi, JAPAN
Date, Masayo, Kawasaki-shi, JAPAN
Umezawa, Yukiko, Kawasaki-shi, JAPAN
Yokoyama, Keiichi, Kawasaki-shi, JAPAN
Matsui, Hiroshi, Kawasaki-shi, JAPAN
PATENT ASSIGNEE(S): AJINOMOTO CO. INC, Tokyo, JAPAN (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2003082746	A1	20030501
APPLICATION INFO.:	US 2002-112488	A1	20020401 (10)

RELATED APPLN. INFO.: Continuation of Ser. No. WO 2000-JP6780, filed on 29 Sep 2000, UNKNOWN

	NUMBER	DATE
PRIORITY INFORMATION:	JP 1999-280098	19990930
	JP 2000-194043	20000628

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: OBLON SPIVAK MCCLELLAND MAIER & NEUSTADT PC, FOURTH FLOOR, 1755 JEFFERSON DAVIS HIGHWAY, ARLINGTON, VA, 22202
NUMBER OF CLAIMS: 30
EXEMPLARY CLAIM: 1
LINE COUNT: 3369
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention relates to a process for secretory production of a foreign protein, in particular, transglutaminase by a coryneform bacterium.

According to the present invention, a process is provided for the secretory production of a foreign protein, in particular, transglutaminase, by making a coryneform bacterium to produce an industrially useful foreign protein, in particular, transglutaminase and efficiently release the product extracellularly (i.e., secretory production).

An intended foreign protein, in particular, transglutaminase, is produced by using an expression construct wherein the gene sequence of the intended foreign protein containing the pro-structure part, in particular, pro-transglutaminase gene sequence, is ligated to the downstream of a sequence encoding the signal peptide region from a coryneform bacterium, introducing this expressional genetic construct into a coryneform bacterium, culturing the thus transformed coryneform bacterium, and treating the extracellularly released protein with a protease, etc. to cleave and eliminate the pro-part.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 20 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:1023558 CAPLUS
DOCUMENT NUMBER: 143:151949
TITLE: Production and molecular cloning of Streptomyces transglutaminase
AUTHOR(S): Chiang, C. M.; Lue, M. Y.
CORPORATE SOURCE: Department of Products Development, Taiwan Sugar Research Institute, Tainan, Taiwan
SOURCE: Taiwan Tangye Gongsi Yanjiuso Yanjiu Huibao (2003), 179-180, 49-69
CODEN: TTGYA4
PUBLISHER: Taiwan Sugar Research Institute
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
AB Transglutaminases (TGase) are enzymes known to catalyze an acyl transfer reaction of .gamma.-caboxyamide groups of glutamine residues in peptide chains. Owing to their ability to catalyze the intra/inter-mol. covalent crosslinking of most proteins, TGase are usually used in food industry to improve functional properties of food and to increase nutritional value. Methods have been developed to use TGases as agents for wound healing in surgical treatments, for promoting adhesion between tissue surfaces, and for repair of defects or lesions in cartilage. TGase can also be applied in microcapsule prepn. and enzyme immobilization. They are multifunctional enzymes with com. value. In this study, we have screened TGase-producing microorganisms from several Streptomyces species. Within them, S. ladakanum and S. mobaraense are the most productive. The TGase are produced as an extracellular enzyme. The highest activity of TGase can be reached around 55-72 h after inoculation. The TGase from S. ladakanum was purified to homogeneity by affinity chromatog. with 42 fold purifying power and 53% recovery. The enzyme was characterized to show pI around 8, optimum temp. at 50.degree., and optima pH between 4 to 7. The TGase gene from S. ladakanum coding for mature enzyme was partially cloned to obtain a 959-bp fragment. The TGase gene from S. mobaraense was fully cloned to obtain a 1242-bp fragment. Comparing with known TGase genes from Streptoverticillium species, they show similarity higher than 82%. When the gene of S. mobaraense was cloned into E. coli, the protein was mainly expressed in inclusion bodies. When the gene was cloned into Pichia pastoris, for unknown reason, the protein expression was not detected and the induction causes the death of the cells.

L6 ANSWER 21 OF 36 USPATFULL on STN
ACCESSION NUMBER: 2002:329845 USPATFULL
TITLE: Method of producing microbial transglutaminase
INVENTOR(S): Taguchi, Seiichi, Kawagoe-shi, JAPAN
Momose, Haruo, Kamakura-shi, JAPAN
PATENT ASSIGNEE(S): AJINOMOTO CO., INC., Tokyo, JAPAN (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2002187525	A1	20021212
APPLICATION INFO.:	US 2002-124429	A1	20020418 (10)
	WO 2000-JP7135		20001013

	NUMBER	DATE
PRIORITY INFORMATION:	JP 1999-295649	19991018

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: OBLON SPIVAK MCCLELLAND MAIER & NEUSTADT PC, FOURTH FLOOR, 1755 JEFFERSON DAVIS HIGHWAY, ARLINGTON, VA, 22202
NUMBER OF CLAIMS: 7
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 1 Drawing Page(s)
LINE COUNT: 816
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention relates to a method of secretory production of transglutaminase by a microorganism.

The object of the present invention is to provide a method of produce a large amount of transglutaminase by causing Streptomyces bacteria to produce and secrete a large amount of transglutaminase.

The present invention is a method of producing a large amount of ***transglutaminase*** , comprising culturing a ***Streptomyces*** bacterium harboring an ***expression*** plasmid containing a ***transglutaminase*** ***gene*** from actynomycetes and its native (naturally occurring) promoter, causing the bacterium to secrete protransglutaminase during the initial phase to the middle phase of culturing, and obtaining mature ***transglutaminase*** (active form) by cleaving and removing the pro9-structure, for example, with proteases derived from ***Streptomyces*** .

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 22 OF 36 WPIDS COPYRIGHT 2006 THE THOMSON CORP on STN
ACCESSION NUMBER: 2002-382648 [41] WPIDS
CROSS REFERENCE: 2002-361946 [39]
DOC. NO. CPI: C2002-107802
TITLE: Enzymatic treatment of proteinaceous fibers comprising e.g., wool, includes contacting protein fiber with aqueous solution comprising tyrosinase enzyme.
DERWENT CLASS: D16 F06
INVENTOR(S): BUCHERT, J; HEINE, E; LANTTO, R; NIKU-PAAVOLA, M; SCHOENBERG, C; SCHONBERG, C
PATENT ASSIGNEE(S): (VALW) VALTION TEKNILLINEN TUTKIMUSKESKUS; (BUCH-I) BUCHERT J; (HEIN-I) HEINE E; (LANT-I) LANTTO R; (NIKU-I) NIKU-PAAVOLA M; (SCHO-I) SCHONBERG C
COUNTRY COUNT: 97
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2002014595	A1	20020221	(200241)*	EN	40
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW					
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW					
FI 2000001807	A	20020216	(200239)		
AU 2001082198	A	20020225	(200245)		
EP 1311719	A1	20030521	(200334)	EN	
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR					
US 2003177589	A1	20030925	(200364)		
JP 2004506816	W	20040304	(200417)		64
FI 113182	B1	20040315	(200420)		
NZ 524051	A	20050624	(200545)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2002014595	A1	WO 2001-FI723	20010815
FI 2000001807	A	FI 2000-1807	20000815

AU 2001082198 A AU 2001-82198 20010815
EP 1311719 A1 EP 2001-960799 20010815
WO 2001-FI723 20010815
US 2003177589 A1 WO 2001-FI723 20010815
US 2003-344750 20030214
JP 2004506816 W WO 2001-FI723 20010815
JP 2002-519714 20010815
FI 113182 B1 FI 2000-1807 20000815
NZ 524051 A NZ 2001-524051 20010815
WO 2001-FI723 20010815

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 2001082198	A Based on	WO 2002014595
EP 1311719	A1 Based on	WO 2002014595
JP 2004506816	W Based on	WO 2002014595
FI 113182	B1 Previous Publ.	FI 2000001807
NZ 524051	A Based on	WO 2002014595

PRIORITY APPLN. INFO: FI 2000-1808 20000815; FI 2000-1807 20000815
AN 2002-382648 [41] WPIDS
CR 2002-361946 [39]
AB WO 200214595 A UPAB: 20050715
NOVELTY - Enzymatic treatment of proteinaceous fibers comprises contacting protein fiber with an aqueous solution comprising tyrosinase enzyme to oxidize tyrosine residues in proteinaceous fibers.
USE - For treating proteinaceous fibers comprising, e.g., fabric, garment, top or animal or human hair, wool, silk, spidersilk.
ADVANTAGE - The method imparts improvements in shrink-resistance and other properties but causes less fiber damage than known enzymatic treatments. The tyrosinase treatment can result in more crosslinking, leading to greater strength, better creasing behavior and a reduction in felting shrinkage. The wettability may be altered due to surface oxidation so that dyeing or printing of the fabric is improved. The treatment also imparts machine washability and improves comfort factor of wool or other protein-containing animal fiber apparel.
DESCRIPTION OF DRAWING(S) - The figure shows tyrosine activity, pH and amount of viable cells during cultivation of the tyrosinase producing bacterium DSM 13540.
Dwg.2/6

L6 ANSWER 23 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2001:300844 CAPLUS
DOCUMENT NUMBER: 134:322699
TITLE: Biosynthetic production of microbial transglutaminase from Streptoverticillium in Streptomyces lividans
INVENTOR(S): Taguchi, Seiichi; Momose, Haruo
PATENT ASSIGNEE(S): Ajinomoto Co., Inc., Japan
SOURCE: PCT Int. Appl., 41 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001029187	A1	20010426	WO 2000-JP7135	20001013

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

JP 2001186884 A2 20010710 JP 1999-350319 19991209
CA 2387823 AA 20010426 CA 2000-2387823 20001013
AU 2000076867 A5 20010430 AU 2000-76867 20001013
EP 1225217 A1 20020724 EP 2000-966485 20001013
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL
BR 2000014811 A 20020827 BR 2000-14811 20001013
US 2002187525 A1 20021212 US 2002-124429 20020418
PRIORITY APPLN. INFO.: JP 1999-295649 A 19991018
WO 2000-JP7135 W 20001013
AB Biosynthetic prodn. of microbial ***transglutaminase*** (TGase; EC 2.3.2.13) in ***Streptomyces*** by ***recombinant*** ***expression*** of proTGase and removal of the pro-structure with ***Streptomyces*** -origin protease, is disclosed. Recombinant expression of TGase gene from Streptoverticillium cinnamoneum CBS 683.68 under the regulation of its endogenous promoter in Streptomyces lividans, is described.
REFERENCE COUNT: 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 24 OF 36 USPATFULL on STN
ACCESSION NUMBER: 2001:25644 USPATFULL
TITLE: Microbial transglutaminases, their production and use
INVENTOR(S): Bech, Lisbeth, Hiller.o slashed.d, Denmark
N.o slashed.rrevang, Iben Angelica, Aller.o slashed.d, Denmark
Halkier, Torben, Birker.o slashed.d, Denmark
Rasmussen, Grethe, K.o slashed.benhavn, Denmark
Schafer, Thomas, Farum, Germany, Federal Republic of
Andersen, Jens T.o slashed.nne, N.ae butted.rum, Denmark
PATENT ASSIGNEE(S): Novo Nordisk A/S, Bagsvaerd, Denmark (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6190879	B1	20010220
APPLICATION INFO.:	US 1999-294565		19990420 (9)

RELATED APPLN. INFO.: Continuation of Ser. No. US 1997-793426, filed on 25 Feb 1997, now patented, Pat. No. US 6100053

	NUMBER	DATE
PRIORITY INFORMATION:	DK 1994-990	19940826
	DK 1995-947	19950824

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Slobodyansky, Elizabeth
LEGAL REPRESENTATIVE: Lambiris, Elias J., Green, Reza
NUMBER OF CLAIMS: 8
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 3 Drawing Figure(s); 3 Drawing Page(s)
LINE COUNT: 1939
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A method for identifying a transglutaminase-producing microorganism based on a selective assay is disclosed.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 25 OF 36 USPATFULL on STN
ACCESSION NUMBER: 2000:102086 USPATFULL
TITLE: Microbial transglutaminases, their production and use
INVENTOR(S): Bech, Lisbeth, Hiller.o slashed.d, Denmark
N.o slashed.rrevang, Iben Angelica, Aller.o slashed.d, Denmark
Halkier, Torben, Birker.o slashed.d, Denmark
Rasmussen, Grethe, K.o slashed.benhavn NV, Denmark
Schafer, Thomas, Farum, Germany, Federal Republic of
Andersen, Jens T.o slashed.nne, N.ae butted.rum, Denmark

PATENT ASSIGNEE(S): Novo Nordisk A/S, Bagsv.ae butted.rd, Germany, Federal Republic of (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6100053		20000808
	WO 9606931		19960307
APPLICATION INFO.:	US 1997-793426		19970225 (8)
	WO 1995-DK347		19950828
			19970225 PCT 371 date
			19970225 PCT 102(e) date

	NUMBER	DATE
PRIORITY INFORMATION:	DK 1994-990	19940826
	DK 1995-947	19950824

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Prouty, Rebecca E.
ASSISTANT EXAMINER: Slobodyansky, Elizabeth
LEGAL REPRESENTATIVE: Zelson, Esq., Steve T., Green, Esq., Reza
NUMBER OF CLAIMS: 17
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 3 Drawing Figure(s); 3 Drawing Page(s)
LINE COUNT: 2225
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Transglutaminase preparations are producible by a wide range of fungi, especially ascomycotina, basidiomycotina and zygomycota, and gram-negative and gram-positive bacteria, especially Streptomyces lydicus, NRRL B-3446. A DNA construct encoding a novel transglutaminase and comprising the DNA sequence obtainable from the plasmid in E. coli, DSM 10175, is also described together with a method of producing the transglutaminases, a composition comprising the transglutaminase and a method for producing a gel or protein gelation composition.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 26 OF 36 WPIDS COPYRIGHT 2006 THE THOMSON CORP on STN
ACCESSION NUMBER: 2001-070776 [08] WPIDS
DOC. NO. CPI: C2001-019663
TITLE: Protein disulfide isomerase variant having increased reducing properties and decreased redox potential than native proteins, used to reduce allergenicity of allergic proteins in feed, food or cosmetic products.
DERWENT CLASS: D16
INVENTOR(S): HJORT, C M
PATENT ASSIGNEE(S): (NOVO) NOVO NORDISK AS; (NOVO) NOVOZYMES AS
COUNTRY COUNT: 93
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2000070064	A1	20001123 (200108)*		EN	82
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW					
W: AE AG AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW					
AU 2000045380	A	20001205 (200113)			
EP 1183373	A1	20020306 (200224)		EN	
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI					

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2000070064	A1	WO 2000-DK265	20000517
AU 2000045380	A	AU 2000-45380	20000517

EP 1183373 A1 EP 2000-926726 20000517
WO 2000-DK265 20000517

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 2000045380	A Based on	WO 2000070064
EP 1183373	A1 Based on	WO 2000070064

PRIORITY APPLN. INFO: US 1999-137068P 19990602; DK 1999-683 19990517; DK 1999-689 19990518

AN 2001-070776 [08] WPIDS

AB WO 200070064 A UPAB: 20010207

NOVELTY - Polypeptides (I) capable of reducing disulfide bonds, with 60% identity or similarity to a fully defined sequence of 281 (S15) or 95 (S17) amino acids as given in specification or to amino acids 21-281 of (S15) (provided that a position in (I) corresponding to amino acid residues numbered 58-61 in a fully defined sequence of 515 amino acids (S13) as given in specification), is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) a method of providing a polypeptide (I) capable of reducing disulfide bonds, comprises altering an amino acid residue in a parent protein disulfide isomerase (PDI) by amending the amino acid X1 to Glu, Ala, Val or Gly and/or the amino acid Y2 to Pro, Thr, Leu or Tyr, in the site corresponding to Cys-X1-Y2-Cys of the parent PDI, to obtain a variant comprising Cys-Gly-Pro-Cys;

(2) a polypeptide (P) obtained by the above method;

(3) a fusion polypeptide comprising (I) or (P) and a fusion partner;

(4) a nucleic acid (II) comprising a nucleotide sequence encoding (I) or (P);

(5) a nucleic acid construct (III) comprising (II) linked to one or more control sequences that direct the production of the polypeptide in a suitably expression host;

(6) a vector (IV) comprising (II);

(7) a transformed host cell comprising (IV);

(8) a recombinant host cell comprising (III);

(9) the preparation of (I) or (P);

(10) the use of (I) or (P) for reducing the allergenicity of a protein, in the preparation of an enzyme preparation for use in food or feed manufacturing, in the manufacture of a cosmetic product for treating scleroproteins, such as human or animal hair or cleaning fabrics;

(11) a composition comprising (I) or (P); and

(12) a food additive or a cosmetic comprising (I) or (P).

USE - (I) is useful for reducing the allergenicity of a protein in food or feed, e.g. gluten or milk based products, including beverages such as infant formula and dietary drinks, by which the digestibility of milk or wheat-based food or feed products is increased. It is also used in the preparation of an enzyme preparation for use in food or feed manufacturing, in the manufacture of a cosmetic product for treating scleroproteins, such as human or animal hair, and for cleaning fabrics (claimed).

ADVANTAGE - (I) reduces the immunogenicity of allergens in milk, and at the same time preserves its nutritional value, in addition to having the benefit of being manufactured on a large industrial scale and also increases the digestibility of milk and other wheat-based food products.

Dwg.0/7

L6 ANSWER 27 OF 36 WPIDS COPYRIGHT 2006 THE THOMSON CORP on STN

ACCESSION NUMBER: 2001-070774 [08] WPIDS

DOC. NO. CPI: C2001-019661

TITLE: New transglutaminase enzyme from Streptoverticillium mobaraense for e.g. use in gelled products and the production of artificial skin.

DERWENT CLASS: B04 D16

INVENTOR(S): DAMODARAN, S

PATENT ASSIGNEE(S): (WISC) WISCONSIN ALUMNI RES FOUND

COUNTRY COUNT: 90

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2000070026	A1	20001123 (200108)*		EN	49

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW

W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

AU 2000049955 A 20001205 (200113)

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2000070026	A1	WO 2000-US12601	20000510
AU 2000049955	A	AU 2000-49955	20000510

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2000049955	A	Based on	WO 2000070026

PRIORITY APPLN. INFO: US 1999-134158P 19990514

AN 2001-070774 [08] WPIDS

AB WO 200070026 A UPAB: 20010207

NOVELTY - A transglutaminase which catalyzes the acyl transfer of the gamma -carboxyamide group of a glutamine residue in a peptide or protein chain independently of Ca2+ and which has an activity at pH 9.0 that is 40 % or greater than its activity at pH 7.0, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) a transglutaminase which is isolated from Streptoverticillium mobaraense strain ATCC (American Type Culture Collection) No. 27446;

(2) a polypeptide which a sequence (B) of 400 amino acids, given in the specification, or which has a sequence which is more than 82% identical to this sequence using BLAST (basic local alignment search tool) default alignment parameters;

(3) isolated nucleic acids which encode the transglutaminases;

(4) an isolated nucleic acid which encodes (2) and which is selected from:

(i) a nucleic acid molecule with a sequence (A) of 1200 nucleotides, given in the specification; and

(ii) a nucleic acid molecule which remains hybridized to (A) after a final wash at 65 deg. C for 10 minutes in 0.1X SSC (saline sodium citrate), 0.5X SET, and 0.1% sodium pyrophosphate

(5) antibodies which are immunologically specific for the transglutaminases.

USE - ***Transglutaminases*** catalyze an acyl transfer reaction of a gamma -carboxyamide group of a glutamine residue and a primary amine of a peptide. When the eta -amino group of a lysine residue functions as the acyl acceptor, intramolecular and intermolecular cross-linking occurs. When water functions as the acyl acceptor, ***transglutaminase*** converts glutamine residues in glutamic acid residues by deamidation. The cross-linking reaction is useful in the food, cosmetic and pharmaceutical industries. ***Transglutaminase*** can gel protein, making it useful in production of gelled food, gelled cosmetics, gelatins, yogurt, cheese and other products. The enzyme can also be used to make thermally stable materials such as microcapsules or carriers of immobilized enzymes. The cross-linking reaction is also potentially useful in production of artificial skin. The nucleic acids may be used as probes for detecting the presence and/or ***expression*** of ***Streptoverticillium*** ***transglutaminase*** ***genes*** , or for identifying related ***genes*** from other microbial species. They may also be used to produce large quantities of the enzyme. The antibodies can be used for detecting the enzyme.

ADVANTAGE - The new transglutaminase has a higher activity, both at

pH 7.0 and pH 9.0, when compared to commercially available transglutaminases. It has a different susceptibility to several commonly used inhibitors, when compared to previously isolated transglutaminases. These properties broaden the range of application in which the new enzyme can be used.
Dwg.0/9

L6 ANSWER 28 OF 36 SCISEARCH COPYRIGHT (c) 2006 The Thomson Corporation on STN DUPLICATE 6
ACCESSION NUMBER: 2000:510589 SCISEARCH
THE GENUINE ARTICLE: 329RZ
TITLE: Overproduction of microbial transglutaminase in Escherichia coli, in vitro refolding, and characterization of the refolded form
AUTHOR: Yokoyama K (Reprint); Nakamura N; Seguro K; Kubota K
CORPORATE SOURCE: Ajinomoto Co Inc, Cent Res Labs, Kawasaki Ku, 1-1 Suzuki Cho, Kanagawa 2100801, Japan (Reprint); Ajinomoto Co Inc, Cent Res Labs, Kawasaki Ku, Kanagawa 2100801, Japan; Ajinomoto Co Inc, Food Res & Dev Labs, Kawasaki Ku, Kanagawa 2100801, Japan
COUNTRY OF AUTHOR: Japan
SOURCE: BIOSCIENCE BIOTECHNOLOGY AND BIOCHEMISTRY, (JUN 2000) Vol. 64, No. 6, pp. 1263-1270.
ISSN: 0916-8451.
PUBLISHER: JAPAN SOC BIOSCI BIOTECHN AGROCHEM, JAPAN ACAD SOC CTR BLDG, 2-4-6 YAYOI BUNKYO-KU, TOKYO, 113, JAPAN.
DOCUMENT TYPE: Article; Journal
LANGUAGE: English
REFERENCE COUNT: 20
ENTRY DATE: Entered STN: 2000
Last Updated on STN: 2000
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS
AB The ***Streptoverticillium*** ***transglutaminase*** (MTG) ***gene*** , synthesized previously for yeast ***expression*** , was modified and resynthesized for overexpession in E. coli. A high-level expression plasmid, pUCTRPMTG-02(+), was constructed. Furthermore, to eliminate the N-terminal methionine, pUCTRPMTGD2 was constructed. Cultivation of E. coli transformed with pUCTRPMTG-02(+) or pUCTRPMTGD2 yielded a large amount of MTG (200 similar to 300 mg/liter) as insoluble inclusion bodies. The N-terminal amino acid residue of the expressed protein was methionine or serine (the second amino acid residue of the mature MTG sequence), respectively. Transformed E. coli cells were disrupted, and collected pellets of inclusion bodies were solubilized with 8 M urea. Rapid dilution treatment of solubilized MTC restored the enzymatic activity. Refolded MTC, purified by ion-exchange chromatography, which had an N-terminal methionine or serine residue, showed activity equivalent to that of native MTG. These results indicated that recombinant MTC; could be produced efficiently in E. coli.

L6 ANSWER 29 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1999:42538 CAPLUS
DOCUMENT NUMBER: 130:109259
TITLE: Manufacture of a ***transglutaminase*** of ***Streptoverticillium*** by ***expression*** of a synthetic ***gene*** in Escherichia coli
INVENTOR(S): Yokoyama, Keiichi; Nakamura, Nami; Miwa, Tetsuya; Seguro, Katsuya
PATENT ASSIGNEE(S): Ajinomoto Co., Inc., Japan
SOURCE: Eur. Pat. Appl., 56 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 889133	A2	19990107	EP 1998-112315	19980702
EP 889133	A3	19990908		
EP 889133	B1	20040310		

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO

JP 11075876	A2	19990323	JP 1998-181951	19980629
US 6013498	A	20000111	US 1998-109063	19980702
CA 2237041	AA	19990104	CA 1998-2237041	19980703
CN 1253177	A	20000517	CN 1998-103375	19980703
BR 9802403	A	20000111	BR 1998-2403	19980706
US 6538122	B1	20030325	US 1999-448310	19991124
US 2002173021	A1	20021121	US 2001-884948	20010621
US 6821763	B2	20041123		
US 2002151703	A1	20021017	US 2001-996561	20011130

PRIORITY APPLN. INFO.: JP 1997-180010 A 19970704
US 1998-109063 A1 19980702
US 1999-448310 A3 19991124

AB A method for efficient manuf. of a bacterial transglutaminase in Escherichia coli is described. The method uses a synthetic gene for the enzyme with minor alterations at the N-terminus (deletion of the aspartic acid at position 2) that allow efficient processing by the host methionine aminopeptidase. The gene is expressed from the strong promoter of the trp operon in a multicopy plasmid. A gene in which several of the arginine codons had been changed to those found in highly expressed Escherichia coli genes was constructed and placed under control of the trp promoter. The protein accumulated as inclusion bodies with yields of .gtoreq.300 mg/L of protein. The protein was not efficiently processed to remove the N-terminal methionine or N-formylmethionine. When the aspartic acid residue was deleted, processing to leave an N-terminal serine was 90% complete. The enzyme retained its normal specific activity.

REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 30 OF 36 PASCAL COPYRIGHT 2006 INIST-CNRS. ALL RIGHTS RESERVED.
on STN DUPLICATE 7

ACCESSION NUMBER: 1998-0533592 PASCAL

TITLE (IN ENGLISH): Molecular cloning of the transglutaminase gene from Bacillus subtilis and its expression in Escherichia coli

AUTHOR: KOBAYASHI K.; HASHIGUCHI K.-I.; YOKOZEKI K.; YAMANAKA S.

CORPORATE SOURCE: Central Research Laboratories, Ajinomoto Co., Inc., Kawasaki-ku, Kawasaki, Kanagawa 210-0801, Japan

SOURCE: Bioscience, biotechnology, and biochemistry, (1998), 62(6), 1109-1114, 37 refs.
ISSN: 0916-8451

DOCUMENT TYPE: Journal
BIBLIOGRAPHIC LEVEL: Analytic
COUNTRY: Japan
LANGUAGE: English
AVAILABILITY: INIST-8935, 354000071289040110
AN 1998-0533592 PASCAL

AB We ***cloned*** and characterized a ***gene*** , tgl, encoding ***transglutaminase*** in Bacillus subtilis. The tgl ***gene*** contained a open reading frame 735-nucleotides long that encoded a 245-residue protein with the molecular weight of 28,300. The deduced amino acid ***sequence*** had little ***sequence*** similarity with ***sequences*** of other ***transglutaminases*** from a ***Streptoverticillium*** sp. or from mammals. The -10 and -35 regions of a putative promoter resembled the consensus ***sequence*** for the .sigma..sup.K-dependent promoter. In addition, a ***sequence*** similar to the consensus ***sequence*** for the GerE binding site was found upstream from this region. These findings suggested that tgl was transcribed in the mother cells during a late stage of sporulation. Evidence for this suggestion was that ***transglutaminase*** activity was detected in sporulating cells during the same stage. ***Transglutaminase*** activity was detected in Escherichia coli cells transformed with a plasmid for ***expression*** of the tgl ***gene*** .

L6 ANSWER 31 OF 36 SCISEARCH COPYRIGHT (c) 2006 The Thomson Corporation on STN DUPLICATE 8
ACCESSION NUMBER: 1997:420532 SCISEARCH
THE GENUINE ARTICLE: XB630
TITLE: High-level ***expression*** of the chemically synthesized ***gene*** for microbial ***transglutaminase*** from ***Streptoverticillium*** in Escherichia coli
AUTHOR: Kawai M (Reprint); Takehana S; Takagi H
CORPORATE SOURCE: AJINOMOTO CO INC, CENT RES LABS, KAWASAKI KU, KAWASAKI, KANAGAWA 210, JAPAN
COUNTRY OF AUTHOR: JAPAN
SOURCE: BIOSCIENCE BIOTECHNOLOGY AND BIOCHEMISTRY, (MAY 1997) Vol. 61, No. 5, pp. 830-835.
ISSN: 0916-8451.
PUBLISHER: JAPAN SOC BIOSCI BIOTECHN AGROCHEM, JAPAN ACAD SOC CTR BLDG, 2-4-6 YAYOI BUNKYO-KU, TOKYO, 113, JAPAN.
DOCUMENT TYPE: Article; Journal
LANGUAGE: English
REFERENCE COUNT: 25
ENTRY DATE: Entered STN: 1997
Last Updated on STN: 1997
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB We developed a novel approach for the high-level production of a microbial ***transglutaminase*** (TGase) from ***Streptoverticillium*** in E. coli, The direct ***expression*** of the TGase ***gene*** in E. coli cells did not cause overproduction, probably due to the harmful influence of TGase activity, which introduces covalent crosslinks between proteins, Therefore, we fused the chemically synthesized TGase ***gene*** coding for the entire 331 amino acid residues at the amino terminus to a bacteriophage T7 ***gene*** 10 leader peptide (260 amino acids) using an inducible ***expression*** vector, The TGase ***gene*** was expressed as inclusion bodies in the E. coli cytoplasm, Restoring 15 amino acid residues upstream of the amino terminus of the mature TGase by a two-step deletion of the fusion ***sequence*** facilitated solubilization and subsequent proteolytic cleavage, thus releasing mature TGase, Although the mature form had less TGase activity than native TGase, because of the poor refolding rate, these results suggest that this system is suitable for the efficient production of TGase.

L6 ANSWER 32 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1994:528753 CAPLUS
DOCUMENT NUMBER: 121:128753
TITLE: Preparation of bacterial transglutaminase with Escherichia coli
INVENTOR(S): Kawai, Misako; Takehana, Shino; Takagi, Hiroshi
PATENT ASSIGNEE(S): Ajinomoto KK, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 06030771	A2	19940208	JP 1992-187038	19920714

PRIORITY APPLN. INFO.: JP 1992-187038 19920714

AB A method for the prodn. of bacterial transglutaminase in a microbial host such as Escherichia coli is described. Transglutaminase of Streptoverticillium was modified by substitution with hydrophilic amino acid residues to improve its soly. and expressed in Escherichia coli as a fusion protein with, e.g., T7 gene 10 peptide. The fusion protein produced in the inclusion bodies was solubilized with a denaturant and cleaved with Factor Xa. The yield of transglutaminase by the method was approx. 20 mg/L.

L6 ANSWER 33 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1995:44501 CAPLUS

DOCUMENT NUMBER: 122:126889
TITLE: The structure of microbial ***transglutaminase*** from ***Streptoverticillium*** and its ***gene*** ***expression*** in Escherichia coli
AUTHOR(S): Motoki, Masao; Takagi, Hiroshi
CORPORATE SOURCE: Food Res. Dev. Lab., Ajinomoto Co., Inc., Kawasaki, 210, Japan
SOURCE: Baiosaiensu to Indasutori (1994), 52(7), 554-61
CODEN: BIDSE6; ISSN: 0914-8981
PUBLISHER: Baioindasutori Kyokai
DOCUMENT TYPE: Journal; General Review
LANGUAGE: Japanese
AB A review with 21 refs., on the primary structure of transglutaminase from S. mobaraense and on the cloning of the transglutaminase gene and its expression in E. coli.

L6 ANSWER 34 OF 36 SCISEARCH COPYRIGHT (c) 2006 The Thomson Corporation on STN DUPLICATE 9
ACCESSION NUMBER: 1994:101649 SCISEARCH
THE GENUINE ARTICLE: MU668
TITLE: CHEMICAL SYNTHESIS OF THE ***GENE*** FOR MICROBIAL ***TRANSGLUTAMINASE*** FROM ***STREPTOVERTICILLIUM*** AND ITS ***EXPRESSION*** IN ESCHERICHIA-COLI
AUTHOR: TAKEHANA S (Reprint); WASHIZU K; ANDO K; KOIKEDA S; TAKEUCHI K; MATSUI H; MOTOKI M; TAKAGI H
CORPORATE SOURCE: AJINOMOTO CO INC, FOOD RES & DEV LABS, KAWASAKI KU, KAWASAKI, KANAGAWA 210, JAPAN; AMANO PHARMACEUT CO LTD, TSUKUBA RES LABS, TSUKUBA, IBARAKI 305, JAPAN
COUNTRY OF AUTHOR: JAPAN
SOURCE: BIOSCIENCE BIOTECHNOLOGY AND BIOCHEMISTRY, (JAN 1994) Vol. 58, No. 1, pp. 88-92.
ISSN: 0916-8451.
PUBLISHER: JAPAN SOC BIOSCI BIOTECHN AGROCHEM, JAPAN ACAD SOC CTR BLDG, 2-4-6 YAYOI BUNKYO-KU, TOKYO 113, JAPAN.
DOCUMENT TYPE: Article; Journal
FILE SEGMENT: LIFE; AGRI
LANGUAGE: English
REFERENCE COUNT: 16
ENTRY DATE: Entered STN: 1994
Last Updated on STN: 1994
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS
AB The gene coding for microbial transglutaminase (TGase) from Streptoverticillium, which consists of 331 amino acids, was chemically synthesized. The codons have been substituted for those mainly favored in yeast. Our strategy involved the construction of the TGase gene in five sections (54 oligomers) that contained unique restriction enzyme sites at both ends, which could readily be ligated to form the full-length product. The chemically synthesized gene was inserted downstream from the ompA signal peptide of the E. coli expression vector, pIN-III-ompA, which carries lpp and lac promoters. The resultant plasmid directed the expression of TGase, with the activity being secreted mainly into the periplasmic space of E. coli. The induced gene product was identical with native TGase in size and in immunological properties, though the enzyme activity was low.

L6 ANSWER 35 OF 36 SCISEARCH COPYRIGHT (c) 2006 The Thomson Corporation on STN DUPLICATE 10
ACCESSION NUMBER: 1994:101648 SCISEARCH
THE GENUINE ARTICLE: MU668
TITLE: MOLECULAR-CLONING OF THE ***GENE*** FOR MICROBIAL ***TRANSGLUTAMINASE*** FROM ***STREPTOVERTICILLIUM*** AND ITS ***EXPRESSION*** IN ***STREPTOMYCES*** -LIVIDANS
AUTHOR: WASHIZU K (Reprint); ANDO K; KOIKEDA S; HIROSE S; MATSUURA A; TAKAGI H; MOTOKI M; TAKEUCHI K
CORPORATE SOURCE: AMANO PHARMACEUT CO LTD, TSUKUBA RES LABS, 22 MIYUKIGAOKA, TSUKUBA, IBARAKI 305, JAPAN (Reprint); AMANO PHARMACEUT CO LTD, CENT RES LABS, AICHI 481, JAPAN; AJINOMOTO CO INC, FOOD RES & DEV LABS, KAWASAKI, KANAGAWA 210, JAPAN
COUNTRY OF AUTHOR: JAPAN

SOURCE: BIOSCIENCE BIOTECHNOLOGY AND BIOCHEMISTRY, (JAN 1994) Vol. 58, No. 1, pp. 82-87.
ISSN: 0916-8451.
PUBLISHER: JAPAN SOC BIOSCI BIOTECHN AGROCHEM, JAPAN ACAD SOC CTR BLDG, 2-4-6 YAYOI BUNKYO-KU, TOKYO 113, JAPAN.
DOCUMENT TYPE: Article; Journal
FILE SEGMENT: LIFE; AGRI
LANGUAGE: English
REFERENCE COUNT: 32
ENTRY DATE: Entered STN: 1994
Last Updated on STN: 1994
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB The microbial transglutaminase (TGase)-producing strain S-8112 [Agric. Biol. Chem., 53, 2613-2617 (1989)] was identified as a variant of Streptoverticillium mobaraense. We amplified a partial gene fragment by polymerase chain reaction (PCR) using oligonucleotides synthesized from the amino acid sequence of TGase, and cloned the gene for TGase using the PCR amplified fragment as a probe. The gene encoded a precursor of TGase consisting of 406 amino acid residues, which comprised the prepro region of 75 amino acid residues and the mature region of 331 amino acid residues. We expressed the TGase gene in Streptomyces lividans under a tyrosinase promoter, and found an active and mature recombinant enzyme, indicating the processing of the gene product.

L6 ANSWER 36 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1992:629103 CAPLUS
DOCUMENT NUMBER: 117:229103
TITLE: Cloning and expression of natural and synthetic genes for a transglutaminase
INVENTOR(S): Takagi, Hiroshi; Arafuka, Shino; Matsui, Hiroshi; Washizu, Kinya; Ando, Keiichi; Koikeda, Satoshi
PATENT ASSIGNEE(S): Amano Pharmaceutical Co., Ltd., Japan; Ajinomoto Co., Inc.
SOURCE: Eur. Pat. Appl., 55 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 481504	A1	19920422	EP 1991-117813	19911018
EP 481504	B1	19960117		
R: DE, FR, GB				
JP 05199883	A2	19930810	JP 1991-267860	19911016
JP 3010589	B2	20000221		
US 5420025	A	19950530	US 1993-136993	19931018

PRIORITY APPLN. INFO.: JP 1990-282566 A 19901019
US 1991-777447 B1 19911018

AB Genes for a transglutaminase useful in food processing and modification of proteins are cloned and expressed. The gene for a transglutaminase of a Streptoverticillium was cloned from a BamHI partial digest bank in .lambda.EMBL3 using a probe prepd. by polymerase chain reaction amplification of part of the gene using amino acid sequence-derived oligonucleotide primers. Synthetic genes with codon usage optimized for different hosts were prepd. One such gene was expressed in Escherichia coli using the ompA-based expression cassette of pIN-III-ompA2. The gene was expressed upon induction with IPTG with most of the transglutaminase activity found in the periplasm. Expression of the gene in yeast and other Actinomycetes is also demonstrated.

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L1 QUE ((PROTEIN-GLUTAMINE ADJ GAMMA-GLUTAMYLTRANSFERASE#) OR (MIC

L2 32440 S L1
L3 5444 S (GENE# OR SEQUENCE# OR POLYNUCLEOTIDE# OR CLONE# OR RECOMBINA
L4 199 S (STREPTOMYCES OR STREPTOVERTICILLI?)(S)L3
L5 77 S EXPRESSI?(S)L4

L6 36 DUP REM L5 (41 DUPLICATES REMOVED)

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